# Herpes Simplex Virus Encephalitis

Presentation:

1. 56 yr old- changes in personality over several days- irritable and confused
2. developed fevers, headache🡪 had left sided weakness and seizures
3. PE: confused, left arm / leg weakness
4. Head MRI: irregular area of hemorrhagic necrosis in the right temporal lobe

HSV-1 Encephalitis

1. all herpes viruses have icosahedral nucleocapsid, linear ds DNA, lipoprotein envelope
2. see multinucleated giant cells
3. latency after primary infection is the characteristic feature of all herpesviruses

Epidemiology:

1. HSE accounts for 10% of all encephalitis cases, is most common cause of sporadic fatal encephalitis
2. HSV1 acquired earlier in life than HSV2
3. HSV 1 is often asymptomatic- see high prevalence of Ab in general population
4. Transmission: close contact (kissing) with those shedding virus
5. Clinical findings of first outbreak: oral lesions and pharyngitis (seen in children and young adults) 🡪 recurrent infections as herpes labialis in young adults

Pathogenesis:

1. primary infection often subclinical🡪 remains in body through whole life in the Trigeminal ganglion or autonomic nerve roots
2. reactivation🡪 may see migration along olfactory or trigeminal nerves to brain🡪 to the temporal lobe🡪 see cytolytic activity🡪 direct damage (necrosis) to brain parenchyma
3. virus specific T cell responses are mounted🡪 perivascular inflammation🡪 hemorrhage in temporal lobe
4. encephalitis manifests as deeper brain function disturbances (confusion / seizures)

Treatment / Prevention:

1. Acyclovir for 21 days🡪 reduce fatality rate from 70% to 30%🡪 often see neuro deficits remain
2. no vaccine, no prophylaxis for encephalitis